

Abstract

A substrate having organic thin film capable of growing two dimensionally such organic thin film as C₆₀ and a transistor using the same are constituted with a substrate (1) having organic thin film by sequentially depositing a buffer layer (3) and organic thin film (4) on the substrate (2), and with the buffer layer orienting the organic thin film (4). A layer easily oriented with the substrate (2) and the buffer layer (3) may be inserted between the substrate (2) and the buffer layer (3). A sapphire substrate as the substrate (2), pentacene or pentacene fluoride as the buffer layer (3), and C₆₀ or rubrene as the organic thin film (4) may be used, thereby C₆₀ or rubrene two dimensional thin film of high quality can be obtained. By using such a substrate (1) having organic thin film, a field effect transistor of high quality can be realized.